

the gas flowing out from the flow path is sucked by a gas suction unit placed on at least one of sides of the small electrodes.

REMARKS

Claims 1-11 and 14-19 are pending herein. Claims 12-13 and 20-42 are withdrawn.

I. The anticipation rejections of claims 1-2, 6-7, and 19 based on Fukuda (JP 56-005975A), as noted on page 2 of the Office Action.

The USPTO respectfully rejects claims 1-2, 6-7, and 19 under 35 U.S.C. §102(b) as being anticipated by Fukuda. Claim 1 is an independent claim.

A. Fukuda does not disclose that the protecting film is transported in contact with the first or second discharge surface and a surface that is part of the first or second electrode and continues to the first or second discharge surface, as claimed in claim 1.

Claim 1 claims in relevant part:

“the protecting film is transported in contact with ~~at least one of the first discharge surface and~~ a surface, which is a part of the first electrode and continues to the first discharge surface, or with the second discharge surface and with ~~at least a part of a surface other than the discharge surface which is a~~ part of the second electrode and continues to the second discharge surface.” (emphasis added)

No new matter is added by the amendments. Support for the amendments is found in present Figures 1, 3, and 4, and on page 27, lines 16-25; page 30, lines 12-26; page 44, lines 8-11; and page 50, lines 1-6 of the present specification. Regarding these limitations, it is respectfully not seen where Fukuda discloses the claimed structure quoted above.

For example, the USPTO respectfully argues on page 3 of the Office Action that Fukuda discloses a film transporting mechanism 13 (i.e., belt-like member 13). However, as seen in Figure 1(a) of Fukuda, it is respectfully important to note that the belt like member 13 of Fukuda does not come in contact with at least a part of a surface that is part of the first electrode and continues to the discharge surface. Instead, Fukuda only teaches that belt-like member 13 is proximate to an electrode 10, and does not teach or suggest anything about contacting a surface that continues to a discharge surface. The USPTO respectfully argues on page 18 of the Office Action that belt like member 13 comes in contact with another surface, i.e., rollers 18. However, rollers 18 of Fukuda are not a part of a first or second electrode, and do not continue to the first or second discharge surface, as claimed in claim

1. Therefore Fukuda respectfully does not disclose that the protecting film is transported in contact with the first or second discharge surface and a surface that is part of the first or second electrode and continues to the first for second discharge surface, as claimed in claim 1.

In contrast, present Figure 3 illustrates one possible embodiment of the claimed structure quoted above. For example, as seen in present Figure 3, the protecting film 27 contacts surface 21b of the small electrode 21. As explained on page 27 of the present specification, surface 21b adjoins to the first small electrode 21A; in other words, surface 21b is a part of the first electrode and continues to the first discharge surface. The protecting film 27 then passes through the flow path B and contacts the discharge surface 21a. Therefore, the protecting film 27 is transported in contact with the first or second discharge surface 21A and a surface 21b that is part of the first or second electrode and continues to the first for second discharge surface, as claimed in claim 1.

The distinction noted above is important and non-trivial because it results in significant advantages over conventional structures. For example, as explained on page 3 of the present specification, the heat of a plasma discharge causes unsupported substrates to contract producing wrinkles and stretches thereon and thereby reducing the uniformity of the resulting film. Thus, when the protecting film is transported in contact with at least one of the first discharge surface and the second discharge surface and with at least part of a surface other than the discharge surface which continues to the discharge surface, as claimed in claim 1, wrinkles and stretches of the protecting film are eliminated and a high quality thin film can be formed (See page 6 of the present specification). Additionally, as explained on pages 7 and 44 of the present specification, the protective film prevents the discharge surface of the second electrode from being contaminated and protects the discharge surface, allowing thin films to be stably formed over a long period of time.

Thus, it is respectfully asserted that Fukuda does not disclose all of the limitations of independent claim 1. Therefore, it is respectfully asserted that Fukuda does not anticipate independent claim 1.

B. The dependent claims.

As noted above, it is respectfully asserted that independent claim 1 is allowable, and therefore it is further respectfully asserted that dependent claims 2, 6-7 and 19 are also allowable.

II. The anticipation rejections of claims 1-3 and 19 based on Oishi (JP 2003229299A), as noted on page 3 of the Office Action.

The USPTO respectfully rejects claims 1-3 and 19 under 35 U.S.C. §102(a) as being anticipated by Oishi. Claim 1 is an independent claim.

A. Oishi does not disclose that the protecting film is transported in contact with the first or second discharge surface and a surface that is part of the first or second electrode and continues to the first or second discharge surface, as claimed in claim 1.

Claim 1 claims in relevant part:

“the protecting film is transported in contact with ~~at least one of the first discharge surface and a surface, which is a part of the first electrode and continues to the first discharge surface, or with the second discharge surface and with at least a part of a surface other than the discharge surface which is a part of the second electrode and continues to the second discharge surface.~~” (emphasis added)

No new matter is added by the amendments. Support for the amendments is found in present Figures 1, 3, and 4, and on page 27, lines 16-25; page 30, lines 12-26; page 44, lines 8-11; and page 50, lines 1-6 of the present specification. Regarding these limitations, it is respectfully not seen where Oishi discloses the claimed structure quoted above.

For example, the USPTO respectfully argues on page 4 of the Office Action that Oishi discloses a film transporting mechanism 4 (i.e., coating 4). However, as seen in Figure 2 of Oishi, it is respectfully important to note that the coating 4 of Oishi does not come in contact with at least a part of a surface that is part of the first electrode and continues to the discharge surface. Instead, Oishi only teaches that coating 4 is proximate to an electrode, and does not teach or suggest anything about contacting a surface that continues to a discharge surface. The USPTO respectfully argues on page 19 of the Office Action that coating 4 comes in contact with another surface, i.e., rollers 4b. However, rollers 4b of Oishi are not a part of a first or second electrode, and do not continue to the first or second discharge surface, as claimed in claim 1. Therefore Oishi respectfully does not disclose that the protecting film is transported in contact with the first or second discharge surface and a surface that is part of the first or second electrode and continues to the first or second discharge surface, as claimed in claim 1.

In contrast, present Figure 3 illustrates one possible embodiment of the claimed structure quoted above. For example, as seen in present Figure 3, the protecting film 27

contacts surface 21b of the small electrode 21. As explained on page 27 of the present specification, surface 21b adjoins to the first small electrode 21A; in other words, surface 21b is a part of the first electrode and continues to the first discharge surface. The protecting film 27 then passes through the flow path B and contacts the discharge surface 21a. Therefore, the protecting film 27 is transported in contact with the first or second discharge surface 21A and a surface 21b that is part of the first or second electrode and continues to the first or second discharge surface, as claimed in claim 1.

The distinction noted above is important and non-trivial because it results in significant advantages over conventional structures. For example, as explained on page 3 of the present specification, the heat of a plasma discharge causes unsupported substrates to contract producing wrinkles and stretches thereon and thereby reducing the uniformity of the resulting film. Thus, when the protecting film is transported in contact with at least one of the first discharge surface and the second discharge surface and with at least part of a surface other than the discharge surface which continues to the discharge surface, as claimed in claim 1, wrinkles and stretches of the protecting film are eliminated and a high quality thin film can be formed (See page 6 of the present specification). Additionally, as explained on pages 7 and 44 of the present specification, the protective film prevents the discharge surface of the second electrode from being contaminated and protects the discharge surface, allowing thin films to be stably formed over a long period of time.

Thus, it is respectfully asserted that Oishi does not disclose all of the limitations of independent claim 1. Therefore, it is respectfully asserted that Oishia does not anticipate independent claim 1.

B. The dependent claims.

As noted above, it is respectfully asserted that independent claim 1 is allowable, and therefore it is further respectfully asserted that dependent claims 2-3 and 19 are also allowable.

III. The obviousness rejections of claims 1-3, 6-7, 10-11, 14, 16, and 19 based on Murakami (JP 2002-339075) in view of Fukuda (JP 56-005975A) or Oishi (JP 2003229299A), as noted on page 5 of the Office Action.

The USPTO respectfully rejects claims 1-3, 6-7, 10-11, 14, 16, and 19 under 35 U.S.C. §103(a) as being obvious over Murakami in view of Fukuda or Oishi. Claim 1 is an independent claim.

A. The cited references do not teach or suggest that the protecting film is transported in contact with the first or second discharge surface and a surface that is part of the first or second electrode and continues to the first for second discharge surface, as claimed in claim 1.

Claim 1 claims in relevant part:

“the protecting film is transported in contact with ~~at least one of the first discharge surface and~~ a surface, which is a part of the first electrode and continues to the first discharge surface, or with the second discharge surface and ~~with at least a part of a surface other than the discharge surface which is a part of the second electrode and continues to the~~ second discharge surface.” (emphasis added)

No new matter is added by the amendments. Support for the amendments is found in present Figures 1, 3, and 4, and on page 27, lines 16-25; page 30, lines 12-26; page 44, lines 8-11; and page 50, lines 1-6 of the present specification. Regarding these limitations, it is respectfully not seen where the cited references teach or suggest the claimed structure quoted above.

For example, the USPTO respectfully notes on page 6 of the Office Action that Murakami “fails to teach a film transporting mechanism for transporting a protecting film for preventing at least one of the first electrode and the second electrode from being exposed to the activated gas.”

The USPTO respectfully attempts to overcome these deficiencies in Murakami by arguing that Fukuda or Oishi teaches a thin film forming apparatus using a film transporting mechanism for transporting a protecting film for preventing at least one of the first electrode and the second electrode from being exposed to the activated gas and prevent the thin film from pollution. However, as noted above in sections I and II, it is respectfully asserted that neither Fukuda nor Oishi teach or suggest that the protecting film is transported in contact with the first or second discharge surface and a surface that is part of the first or second electrode and continues to the first for second discharge surface, as claimed in claim 1.

In contrast, present Figure 3 illustrates one possible embodiment of the claimed structure quoted above. For example, as seen in present Figure 3, the protecting film 27 contacts surface 21b of the small electrode 21. As explained on page 27 of the present specification, surface 21b adjoins to the first small electrode 21A; in other words, surface 21b is a part of the first electrode and continues to the first discharge surface. The protecting film 27 then passes through the flow path B and contacts the discharge surface 21a. Therefore, the protecting film 27 is transported in contact with the first or second discharge surface 21A and a surface 21b that is part of the first or second electrode and continues to the first or second discharge surface, as claimed in claim 1.

The distinction noted above is important and non-trivial because it results in significant advantages over conventional structures. For example, as explained on page 3 of the present specification, the heat of a plasma discharge causes unsupported substrates to contract producing wrinkles and stretches thereon and thereby reducing the uniformity of the resulting film. Thus, when the protecting film is transported in contact with at least one of the first discharge surface and the second discharge surface and with at least part of a surface other than the discharge surface which continues to the discharge surface, as claimed in claim 1, wrinkles and stretches of the protecting film are eliminated and a high quality thin film can be formed (See page 6 of the present specification). Additionally, as explained on pages 7 and 44 of the present specification, the protective film prevents the discharge surface of the second electrode from being contaminated and protects the discharge surface, allowing thin films to be stably formed over a long period of time.

Thus, it is respectfully asserted the cited references, taken either alone or in combination, do not teach or suggest all of the limitations of independent claim 1. Therefore, it is respectfully asserted that independent claim 1 is allowable.

B. The dependent claims.

As noted above, it is respectfully asserted that independent claim 1 is allowable, and therefore it is further respectfully asserted that dependent claims 2-3, 6-7, 10-11, 14, 16 and 19 are also allowable.

IV. The obviousness rejections of claims 4-5 based on Murakami (JP 2002-339075) in view of Fukuda (JP 56-005975A) or Oishi (JP 2003229299A) in further view of Ahtner (US 5,652,022), as noted on page 9 of the Office Action.

As noted above, it is respectfully asserted that independent claim 1 is allowable, and it is further respectfully asserted that Ahtner does not overcome the deficiencies in the cited references as noted above in section IV regarding independent claim 1. Therefore, it is respectfully asserted that dependent claims 4-5 are also allowable.

V. The obviousness rejections of claims 8-9 and 15 based on Murakami (JP 2002-339075) in view of Fukuda (JP 56-005975A) or Oishi (JP 2003229299A) in further view of Nakamura (US 6,489,585), as noted on page 10 of the Office Action.

As noted above, it is respectfully asserted that independent claim 1 is allowable, and it is further respectfully asserted that Nakamura does not overcome the deficiencies in the cited references as noted above in section IV regarding independent claim 1. Therefore, it is respectfully asserted that dependent claims 8-9 and 15 are also allowable.

VI. The obviousness rejections of claim 17 based on Murakami (JP 2002-339075) in view of Fukuda (JP 56-005975A) or Oishi (JP 2003229299A) in further view of Fukuda (US 6,759,100), as noted on page 11 of the Office Action.

As noted above, it is respectfully asserted that independent claim 1 is allowable, and it is further respectfully asserted that Fukuda does not overcome the deficiencies in the cited references as noted above in section IV regarding independent claim 1. Therefore, it is respectfully asserted that dependent claim 17 is also allowable.

VII. The obviousness rejections of claim 18 based on Murakami (JP 2002-339075) in view of Fukuda (JP 56-005975A) or Oishi (JP 2003229299A) in further view of Sagawa (JP 63-134677A), as noted on page 12 of the Office Action.

As noted above, it is respectfully asserted that independent claim 1 is allowable, and it is further respectfully asserted that Sagawa does not overcome the deficiencies in the cited references as noted above in section IV regarding independent claim 1. Therefore, it is respectfully asserted that dependent claim 18 is also allowable.

VIII. The obviousness type double patenting rejections of claims 1-3, 17, and 19 based on US Patent No. 6,759,100 in view of Fukuda (US 6,759,100) or Oishi (JP 2003229299A), as noted on page 14 of the Office Action.

The USPTO respectfully rejects claims 1-3, 17, and 19 on the ground of nonstatutory obviousness-type double patenting based on claims 1-3, 14-16, and 29-31 US Patent No. 6,759,100 in view of Fukuda or Oishi. Claim 1 is an independent claim.

The USPTO respectfully argues on page 14 of the Office Action that US 6,759,100 fails to teach “a film transporting mechanism for transporting a protecting film for preventing at least one of the first electrode and the second electrode from being exposed to the activated gas.” The USPTO respectfully attempts to overcome this deficiency by arguing that Fukuda or Oishi teaches a thin film forming apparatus using a film transporting mechanism for transporting a protecting film for preventing at least one of the first electrode and the second electrode from being exposed to the activated gas and prevent the thin film from pollution.

However, as noted above in sections I and II, it is respectfully asserted that **neither Fukuda nor Oishi teach or suggest that the protecting film is transported in contact with the first or second discharge surface and a surface that is part of the first or second electrode and continues to the first for second discharge surface.** as claimed in claim 1.

Thus, it is respectfully asserted that independent claim 1 is allowable, and therefore it is further respectfully asserted that dependent claims 2-3, 17, and 19 are also allowable. Additionally, since the present claims have not been patented, it is respectfully not possible that double patenting can be determined yet (i.e., there is no way to compare the claims of the present application to US 6,759,100 until the present claims are allowable). Thus, the Applicants respectfully request that the USPTO withdraw the obviousness double patenting rejections until the present claims are in final form and otherwise in condition for allowance.

IX. The obviousness type double patenting rejections of claims 1-3, 17, and 19 based on US Patent No. 7,166,335 in view of Fukuda (JP 56-005975A) or Oishi (JP 2003229299A), as noted on page 16 of the Office Action.

The USPTO respectfully rejects claims 1-3, 17, and 19 on the ground of nonstatutory obviousness-type double patenting based on claims 1-3, 14-16, and 29-31 US Patent No. 6,759,100 in view of Fukuda or Oishi. Claim 1 is an independent claim.

The USPTO respectfully argues on page 16 of the Office Action that US 7,166,335 fails to teach “a film transporting mechanism for transporting a protecting film for preventing at least one of the first electrode and the second electrode from being exposed to the activated

gas.” The USPTO respectfully attempts to overcome this deficiency by arguing that Fukuda or Oishi teaches a thin film forming apparatus using a film transporting mechanism for transporting a protecting film for preventing at least one of the first electrode and the second electrode from being exposed to the activated gas and prevent the thin film from pollution.

However, as noted above in sections I and II, it is respectfully asserted that **neither Fukuda nor Oishi teach or suggest that the protecting film is transported in contact with the first or second discharge surface and a surface that is part of the first or second electrode and continues to the first for second discharge surface**, as claimed in claim 1.

Thus, it is respectfully asserted that independent claim 1 is allowable, and therefore it is further respectfully asserted that dependent claims 2-3, 17, and 19 are also allowable.

Additionally, since the present claims have not been patented, it is respectfully not possible that double patenting can be determined yet (i.e., there is no way to compare the claims of the present application to US 6,759,100 until the present claims are allowable). Thus, the Applicants respectfully request that the USPTO withdraw the obviousness double patenting rejections until the present claims are in final form and otherwise in condition for allowance.

X. Conclusion.

Reconsideration and allowance of all of the claims is respectfully requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Please contact the undersigned for any reason. Applicants seek to cooperate with the Examiner including via telephone if convenient for the Examiner.

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